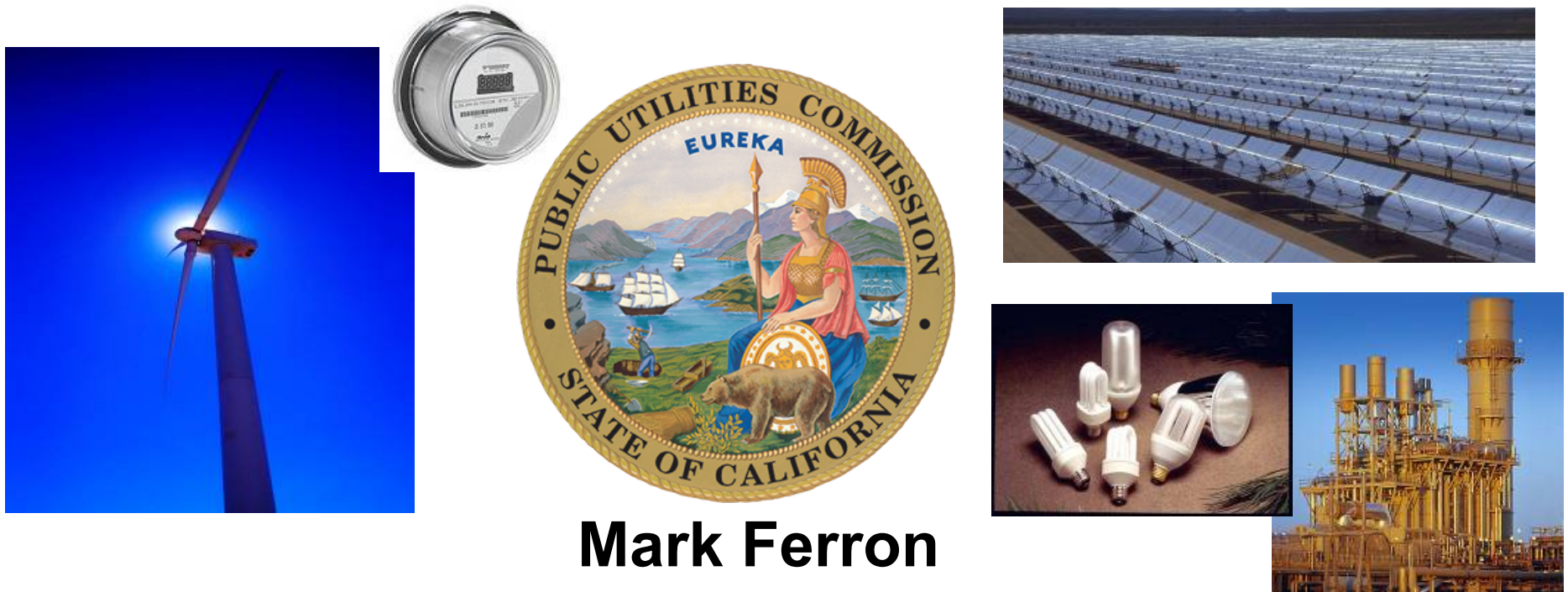




California's Energy Economy: A Regulatory Perspective



Mark Ferron
California Public Utilities Commission
May 16, 2012



An Evolving Mission

1. Safety and Reliability cannot be compromised
2. Encourage new innovation and attract new capital
3. Demand Value for Money
4. Promote a healthy environment and economy
5. Look out for the underdog across all stakeholders
6. Expose entrenched, anti-competitive players to market forces



Urgent but
not Important



Important but
not Urgent





My observations on some key issues

Safety

Investment &
Financing

Costs

Rate
Design

Energy
Efficiency

Renewables

Feed-in
Tariffs & DG

Reliability





Safety

San Bruno is a game changer

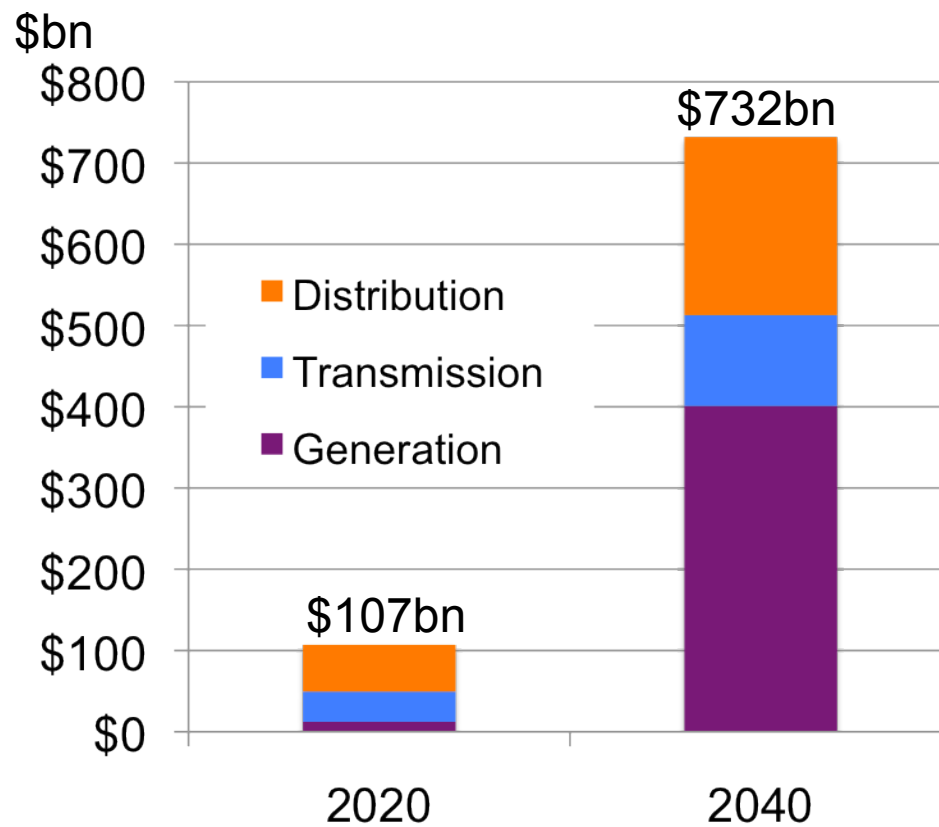




Investment & Financing

Our aging electrical grid needs billions of dollars in investment

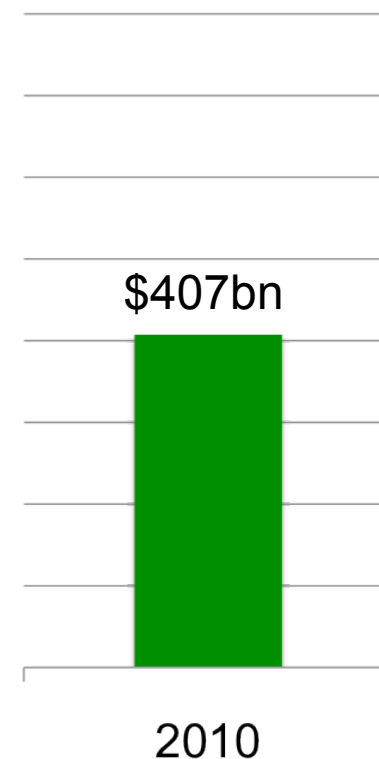
Cumulative Incremental Investment Needed for US Electricity Infrastructure



Source: American Society of Civil Engineers, 2012

5

Total market capitalization of U.S. shareholder-owned electric companies



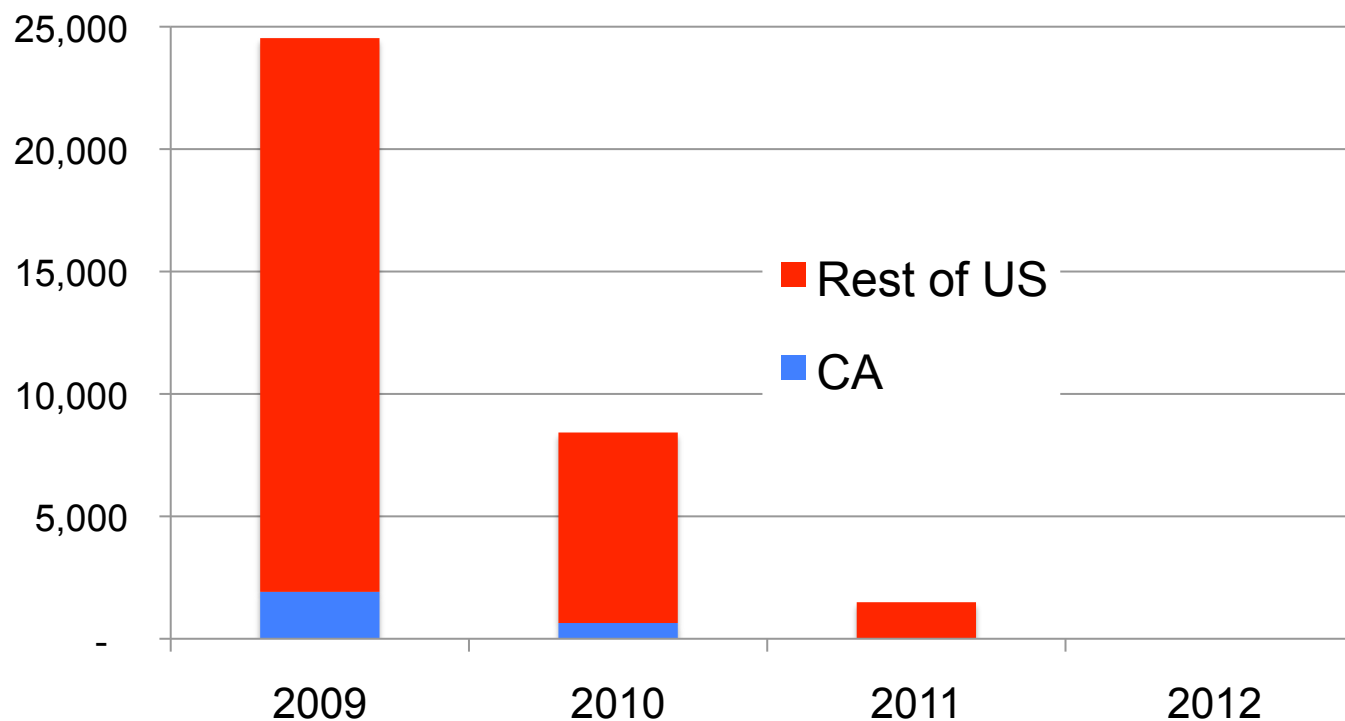
Source: Edison Electric Institute





What we gonna do when the money runs out?

DOE ARRA Funds Granted by Year (\$m)



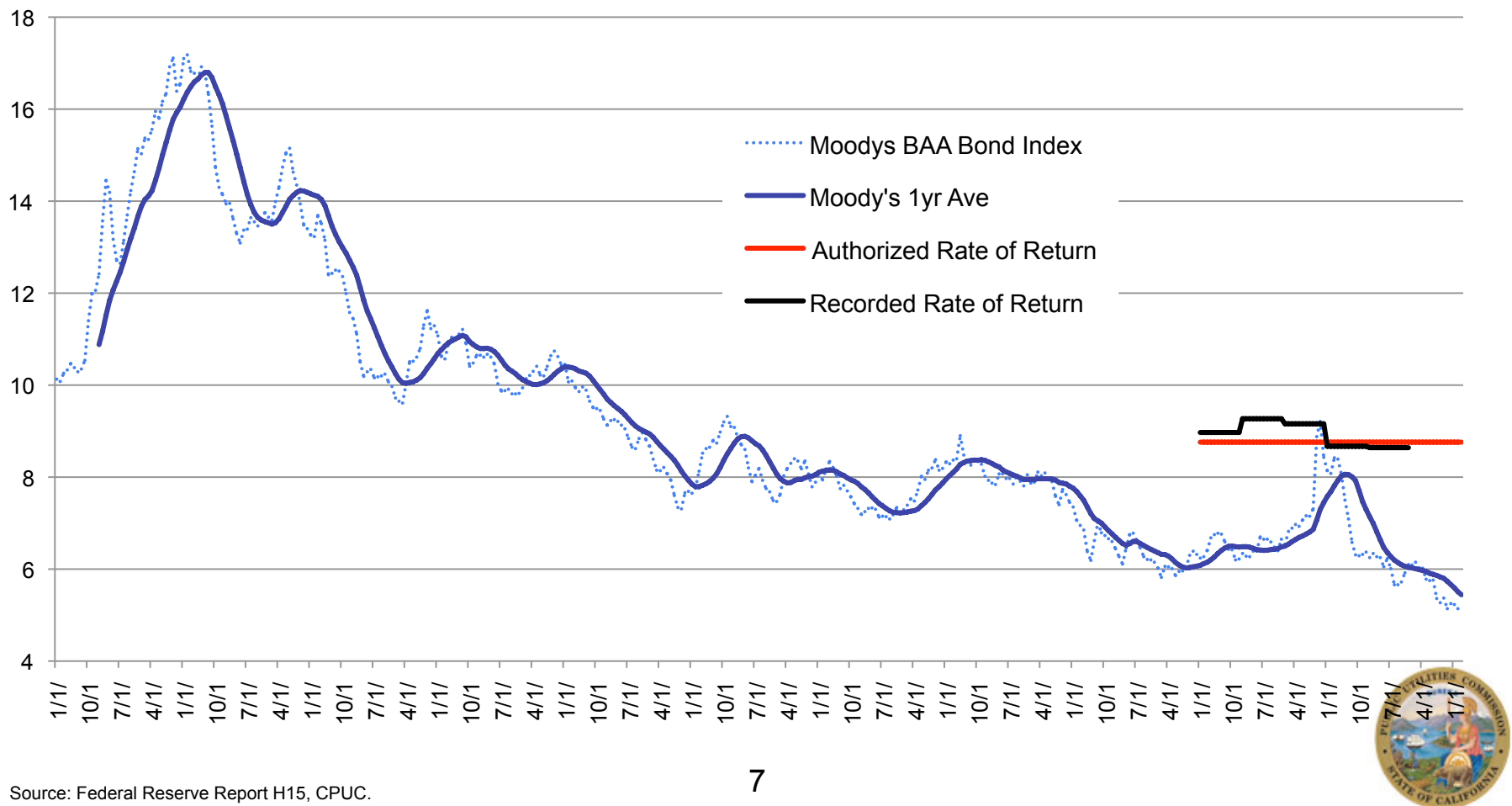
Source: US Department of Energy





Considering the current market environment

Corporate Bond Yields and California Utilities' Rates of Return



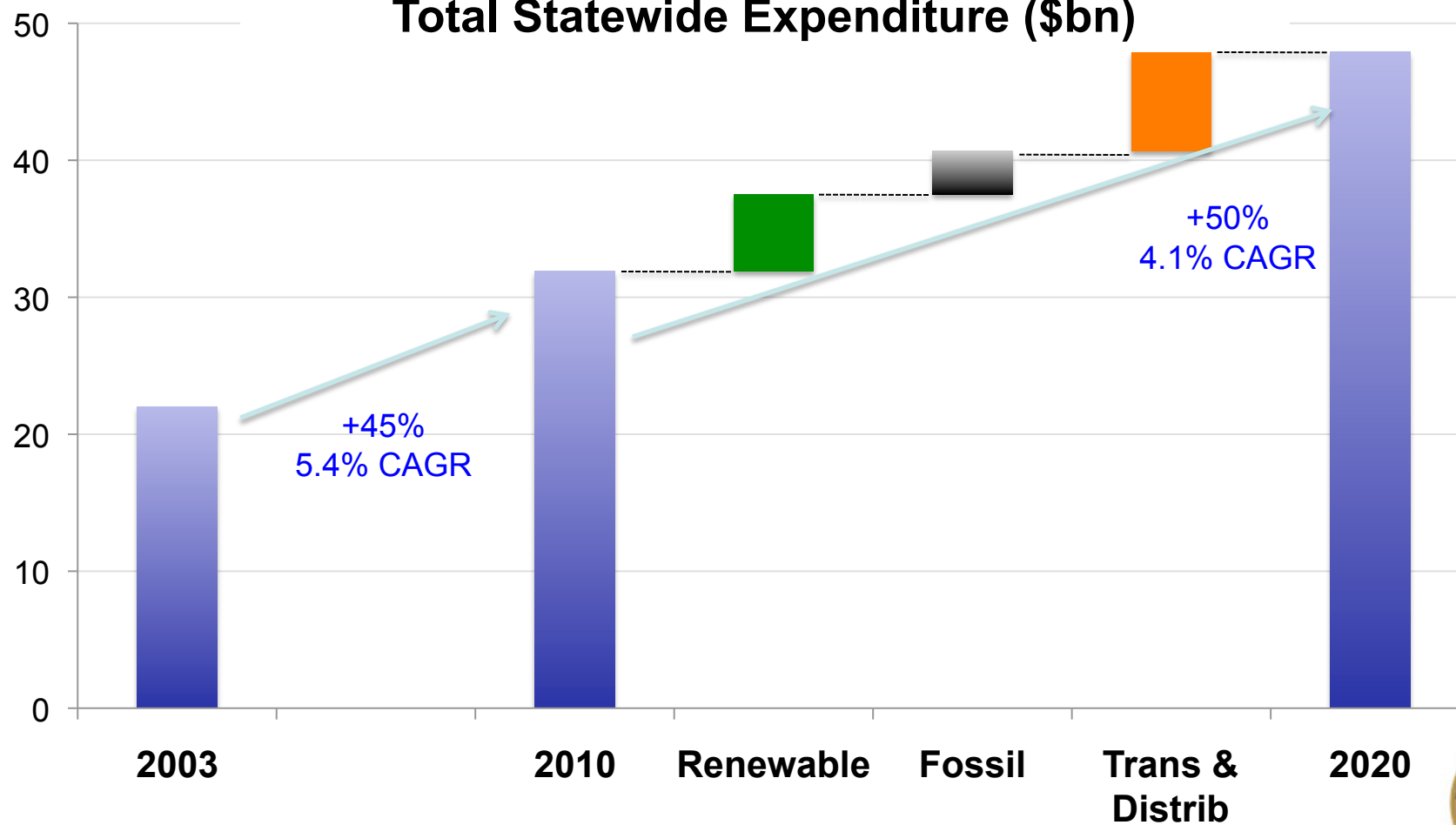
Source: Federal Reserve Report H15, CPUC.





Is Electricity “Sticker Shock” inevitable?

Actual and Projected Electricity Costs Total Statewide Expenditure (\$bn)

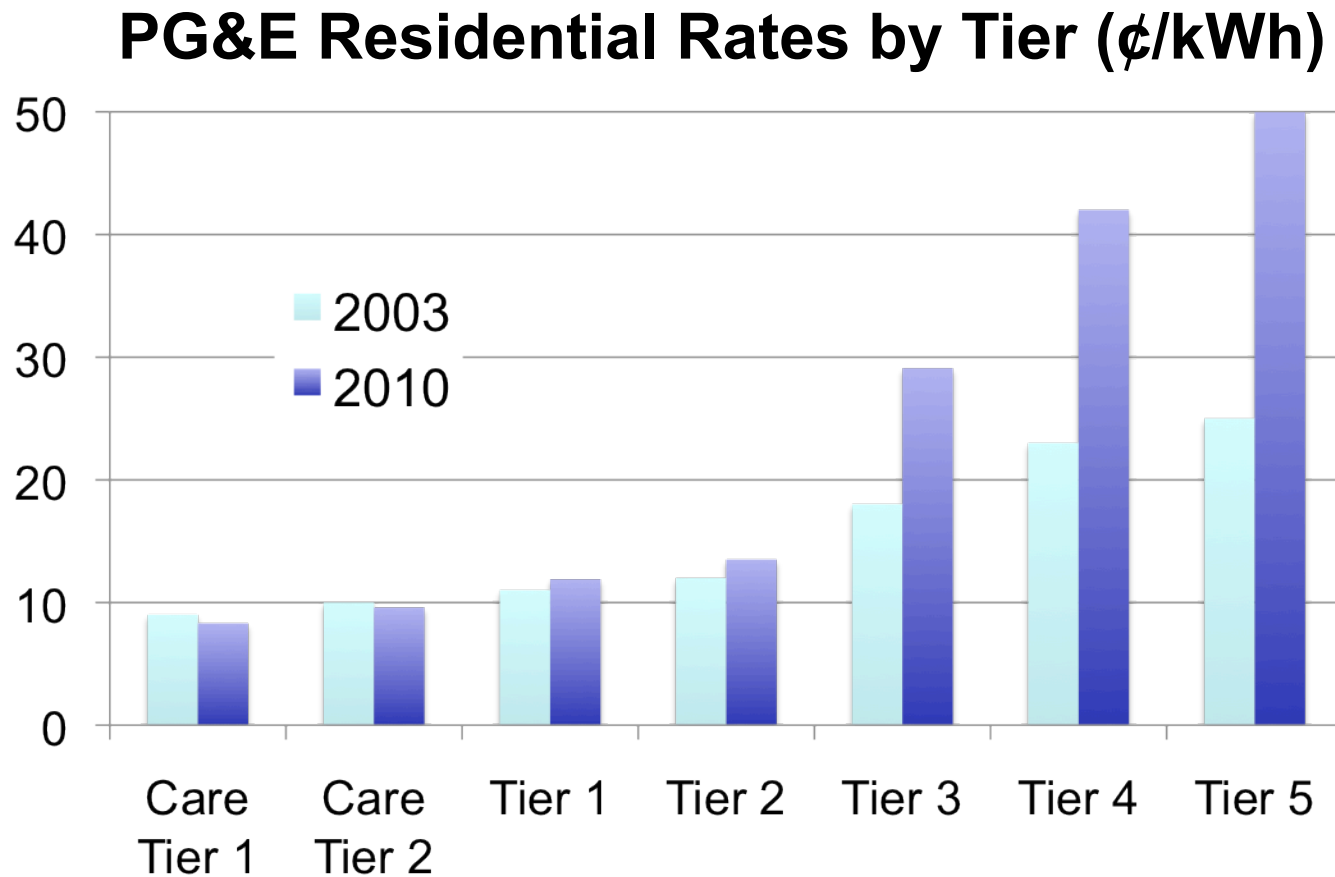


Source: CPUC.





The Rate Design Puzzle: Who pays?



Source: PG&E, CPUC.

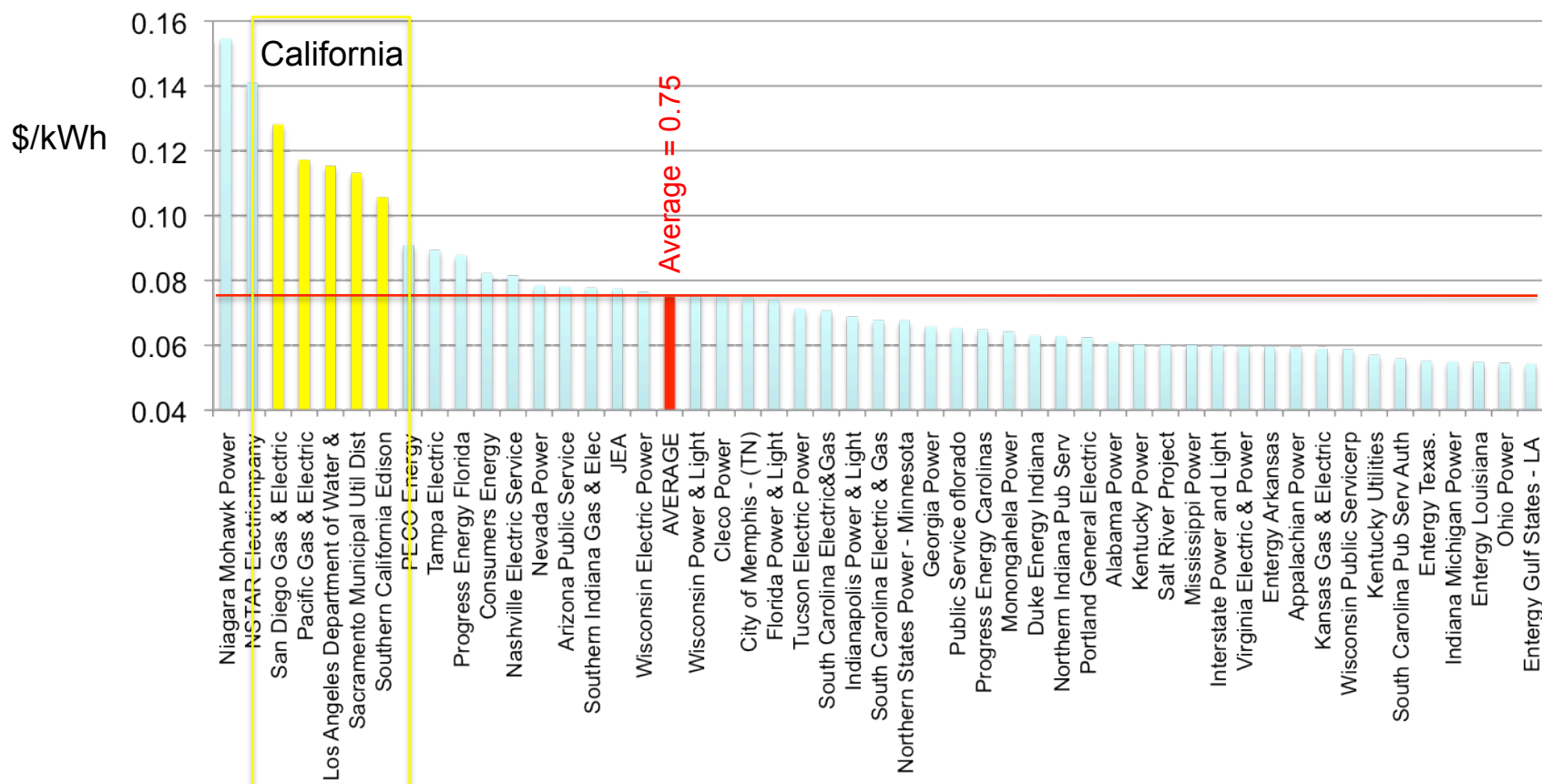




Rate Design

The cost of electricity is a serious disadvantage for California Industry

Average Industrial Rates for the 50 largest US Utilities



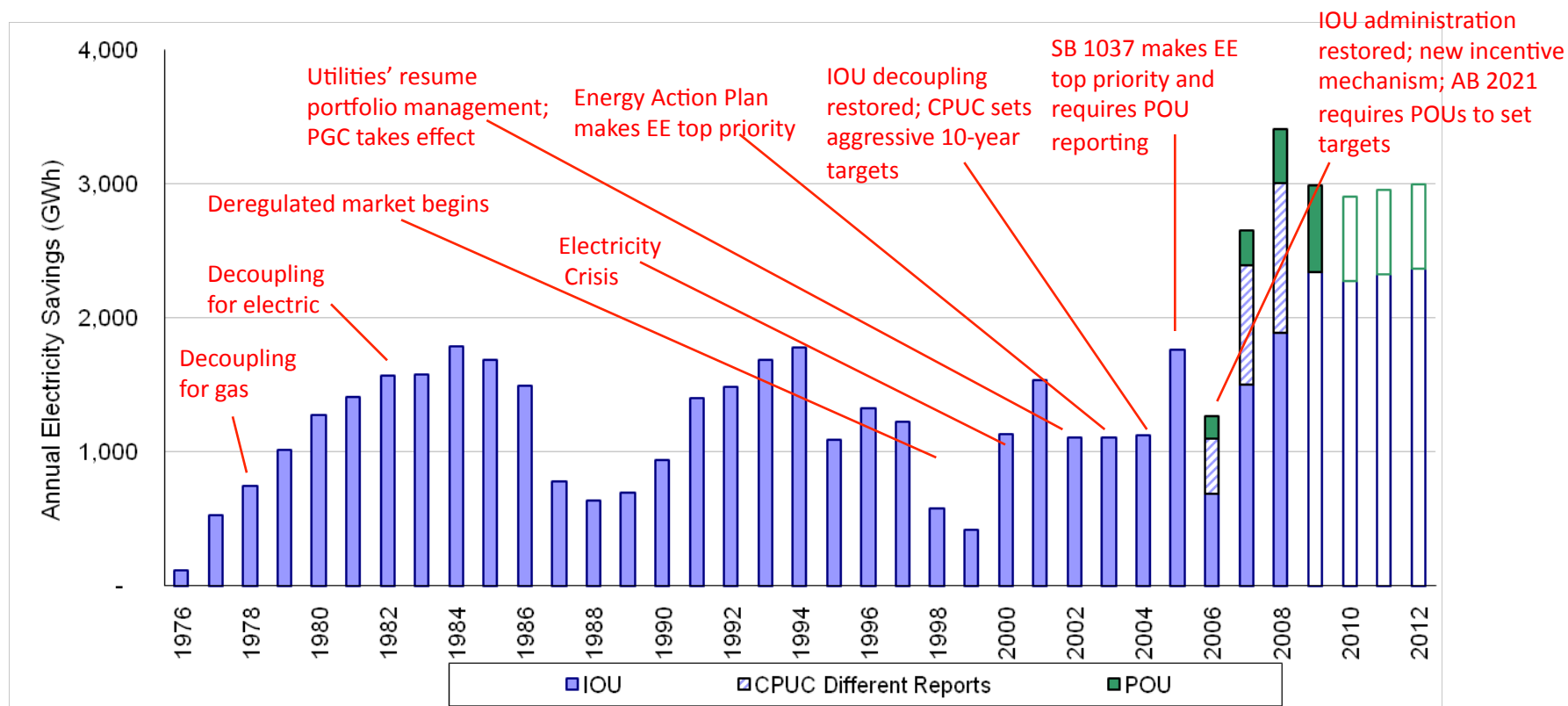
Source: US Energy Information Administration Form EIA-826 Data Monthly Electric Utility Sales and Revenue Data, 2011. Note: excludes Hawaii.





Energy Efficiency

California's History of Energy Efficiency Action



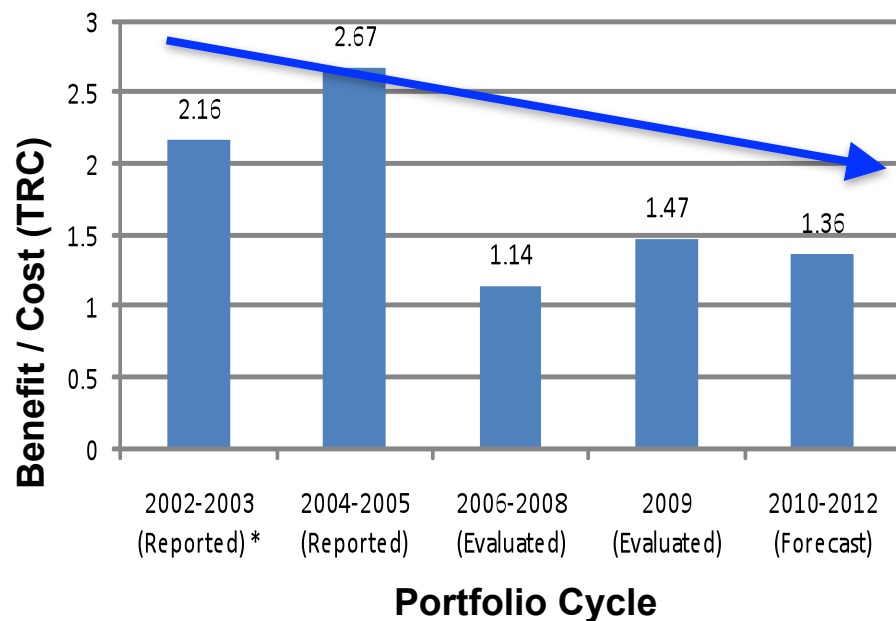
Source: Natural Resources Defense Council (NRDC), as modified by Energy Division 4/25/2011



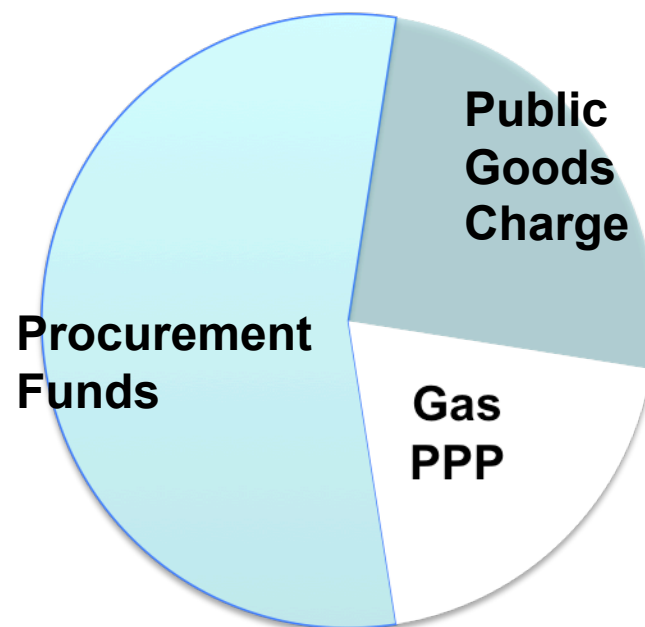


Challenges to California's EE Programs

**Declining IOU Portfolio
Cost Effectiveness over time**



**2010-2012 Funding Sources
(prior to 2011)**



3 yr total= \$3.1 Billion
(excluding Low Income EE Programs)

Source: CPUC.





2013-2014 Transition Guidance: Themes

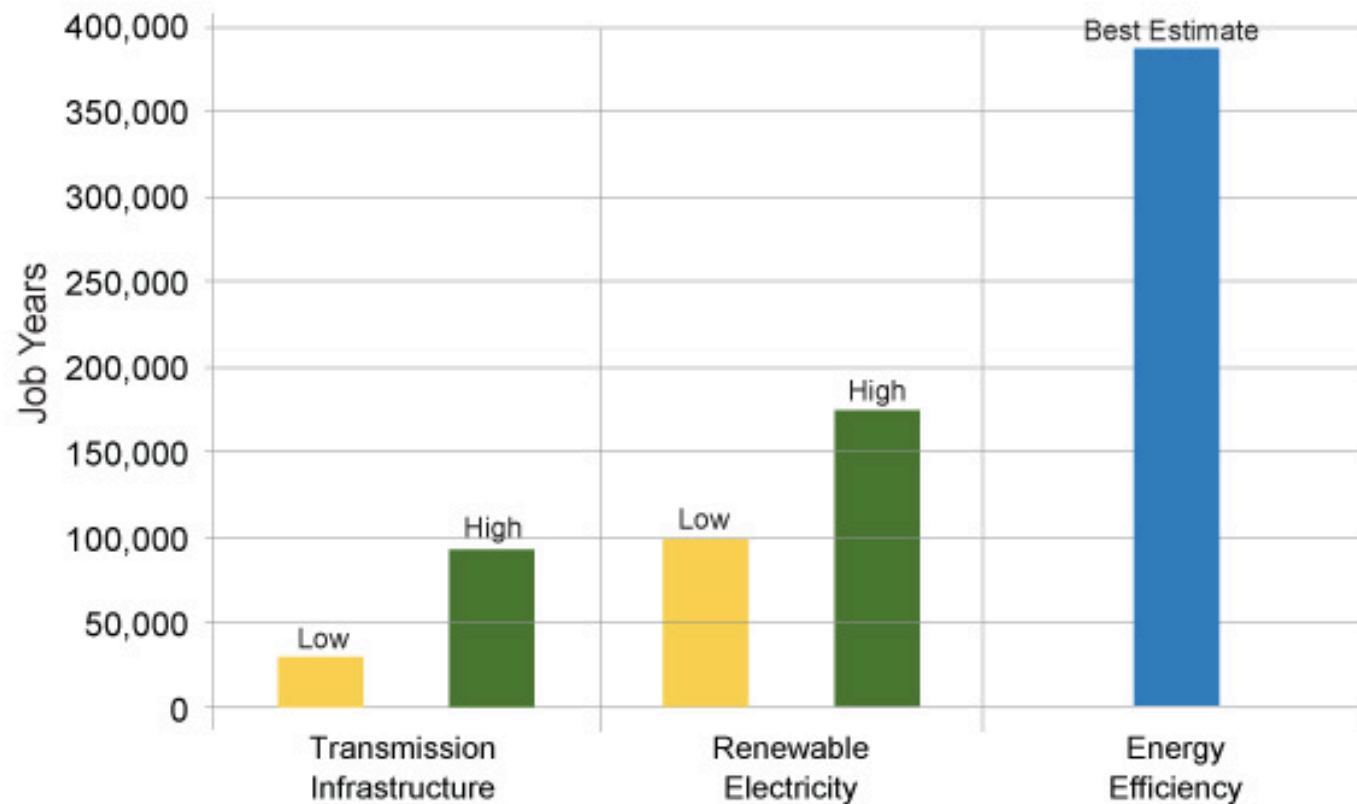
- Expand deep retrofit strategies for existing building stock
- Leverage ratepayer energy efficiency funds with private financing
- Coordinate and improve product development and adoption processes in the emerging technologies and the Codes and Standards programs
- Increase the delivery of efficiency programs by third parties and local governments





The Green Sector can be a Job Creator

Cumulative new jobs projected from 2011 to 2020



Source: California Clean Energy Future, Jan 2012

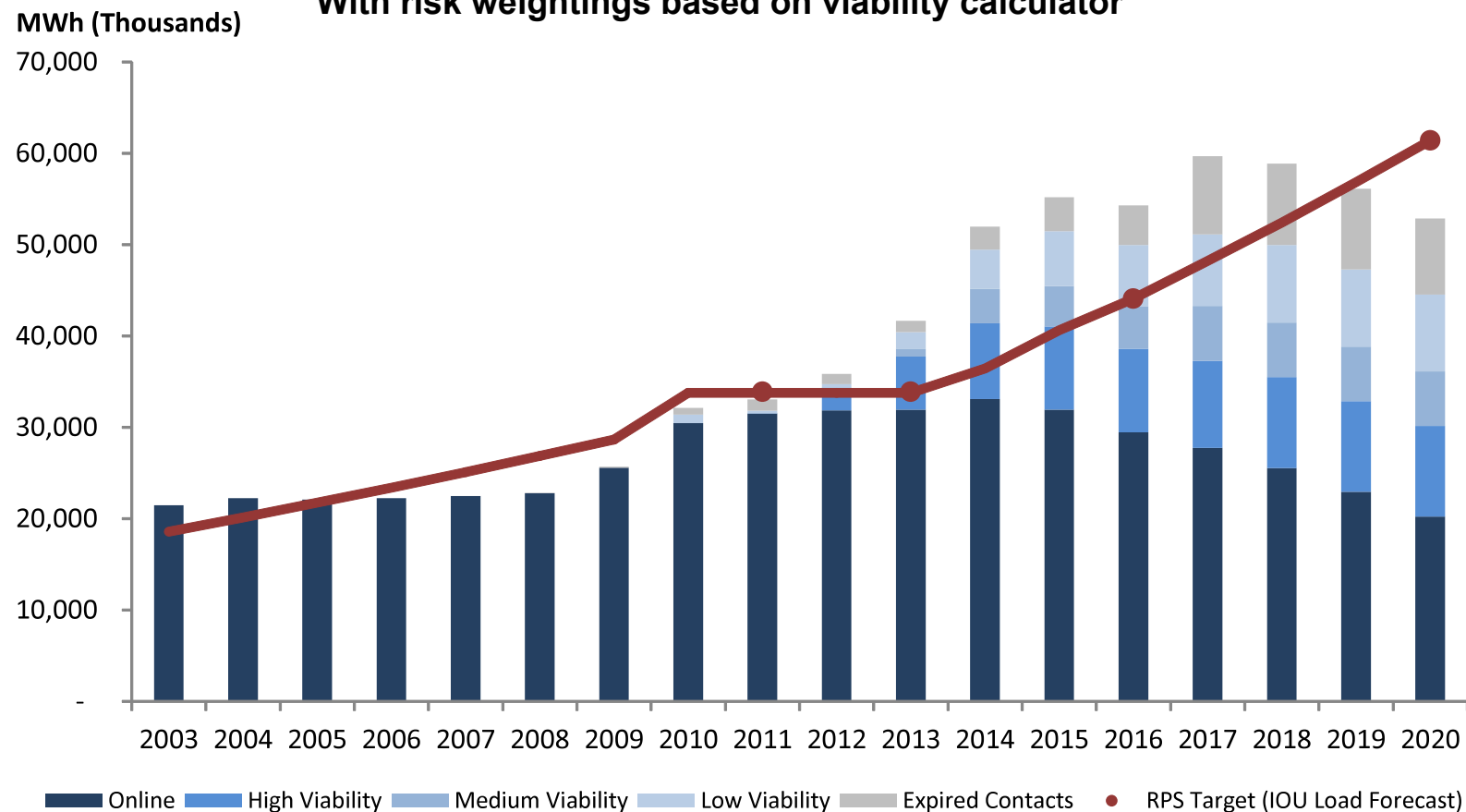




Renewables

California should get to 33% RPS by 2020

IOU RPS Procurement Forecast With risk weightings based on viability calculator

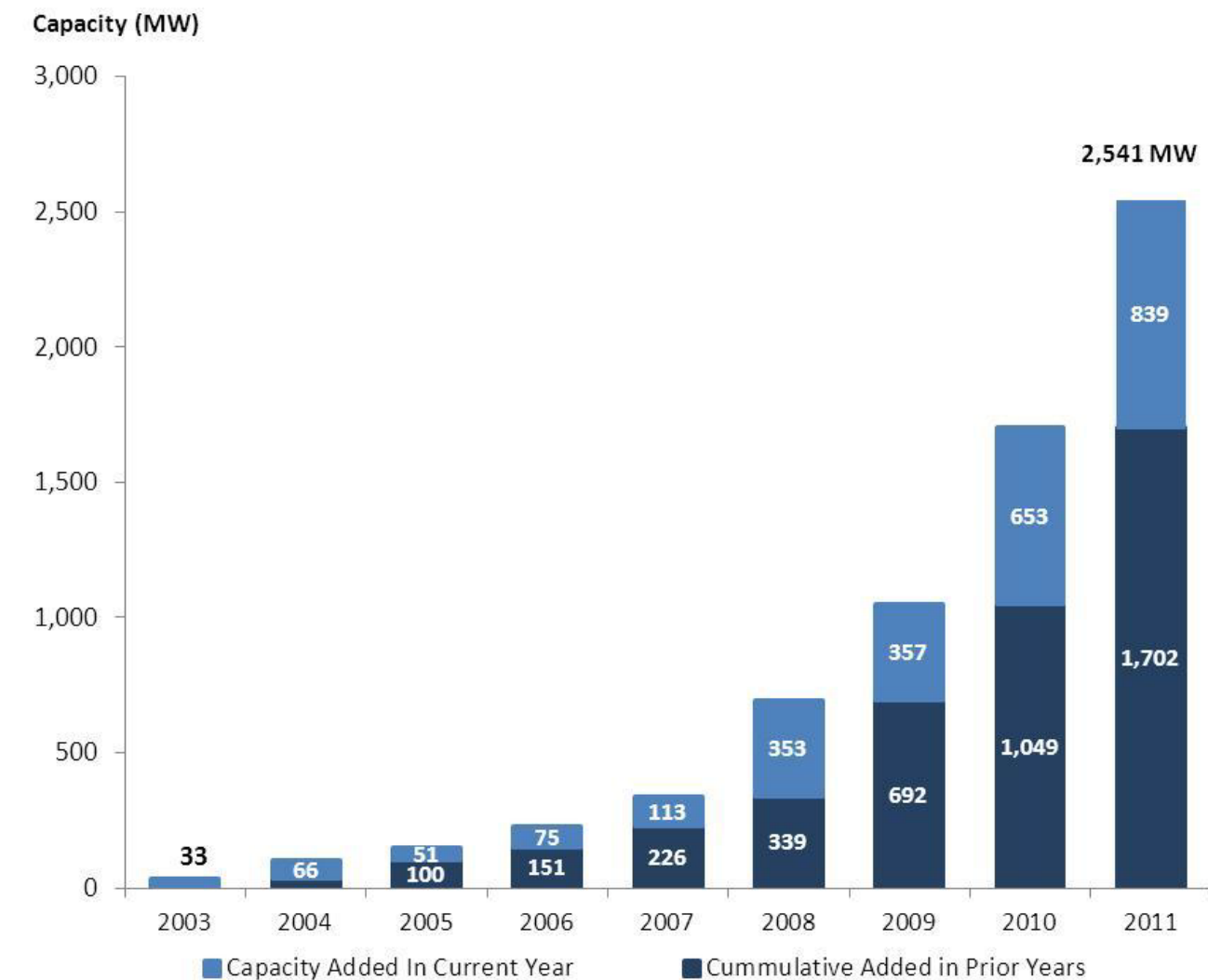


Source: California Public Utilities Commission, 3rd Quarter 2011





We are rapidly adding new renewable generation



Source: California Public Utilities Commission, 4th Quarter 2011

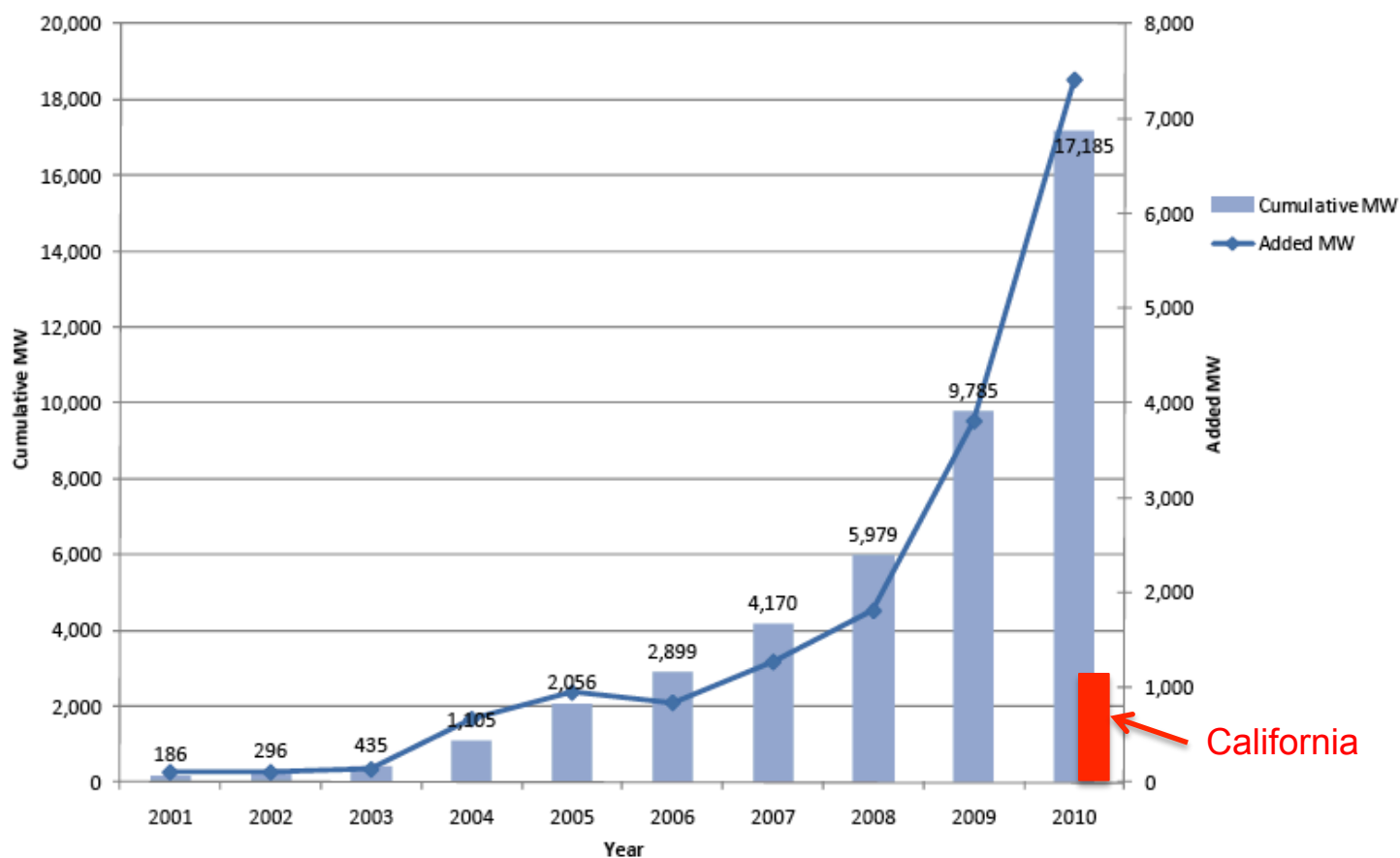




Feed-in Tariffs & DG

A Feed-in Tariff is a powerful tool....

PV installed in Germany has skyrocketed.....



Source: BMU (2010) and DBCCA Research (2011)

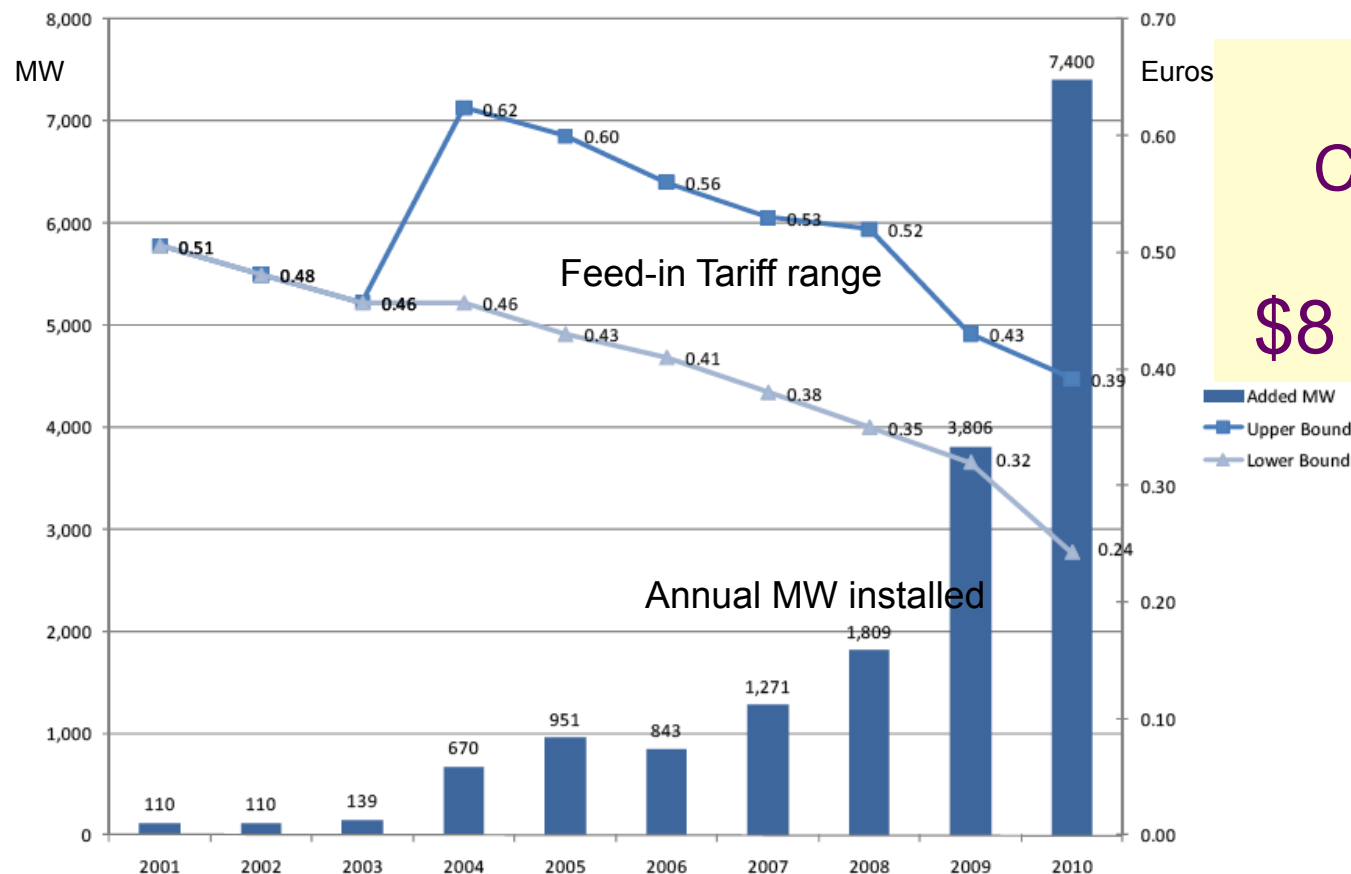




Feed-in Tariffs & DG

.. But a Feed-in Tariff is not a magic wand

The levels of European FiT subsidies are unsustainable



Source: DB Climate Change Advisors "The German Feed-in Tariff for PV" May 2011

Estimated
Cost to German
Ratepayers:
\$8 billion per year

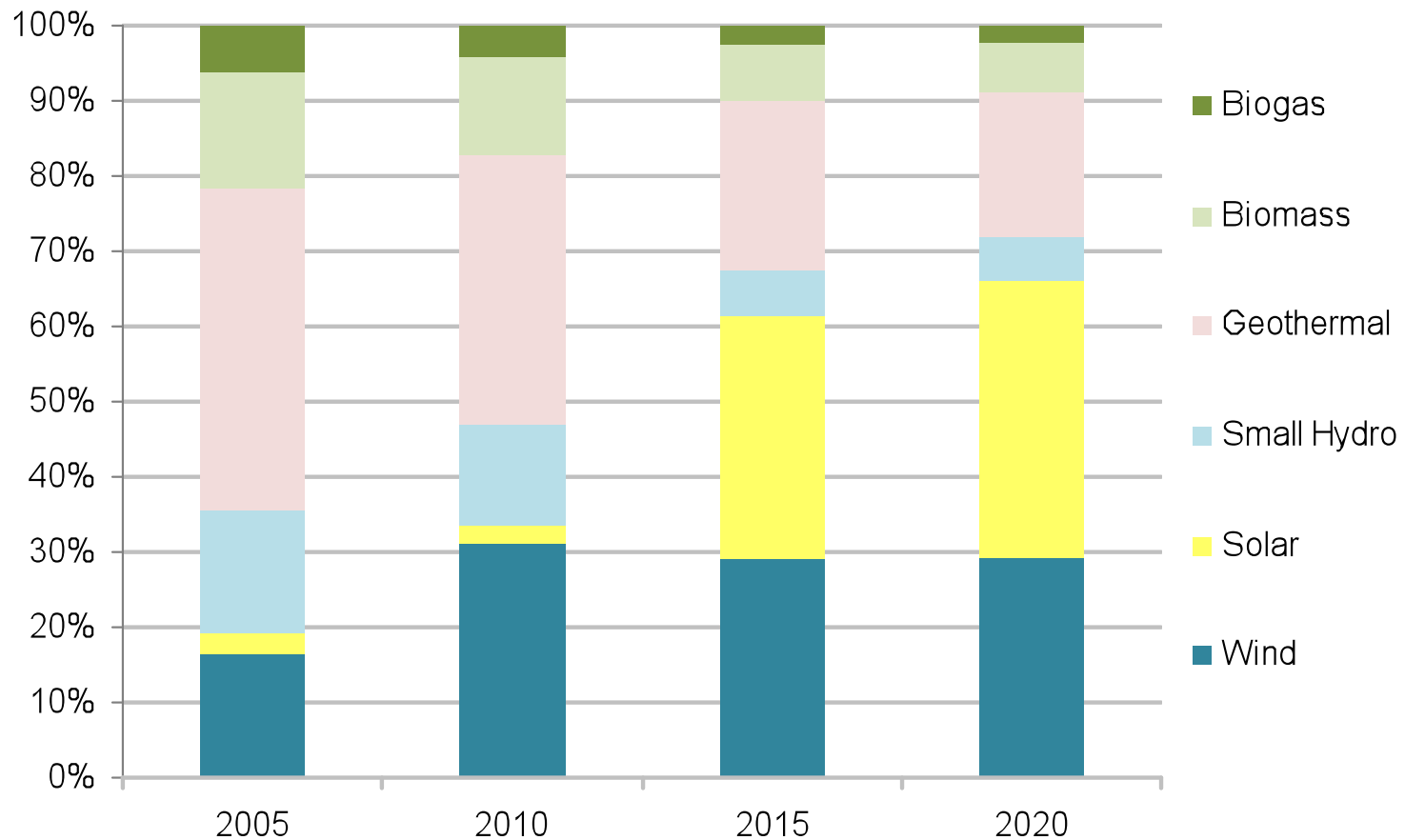




Reliability

Solar will be the most important Renewable

Percentage of RPS
Portfolio



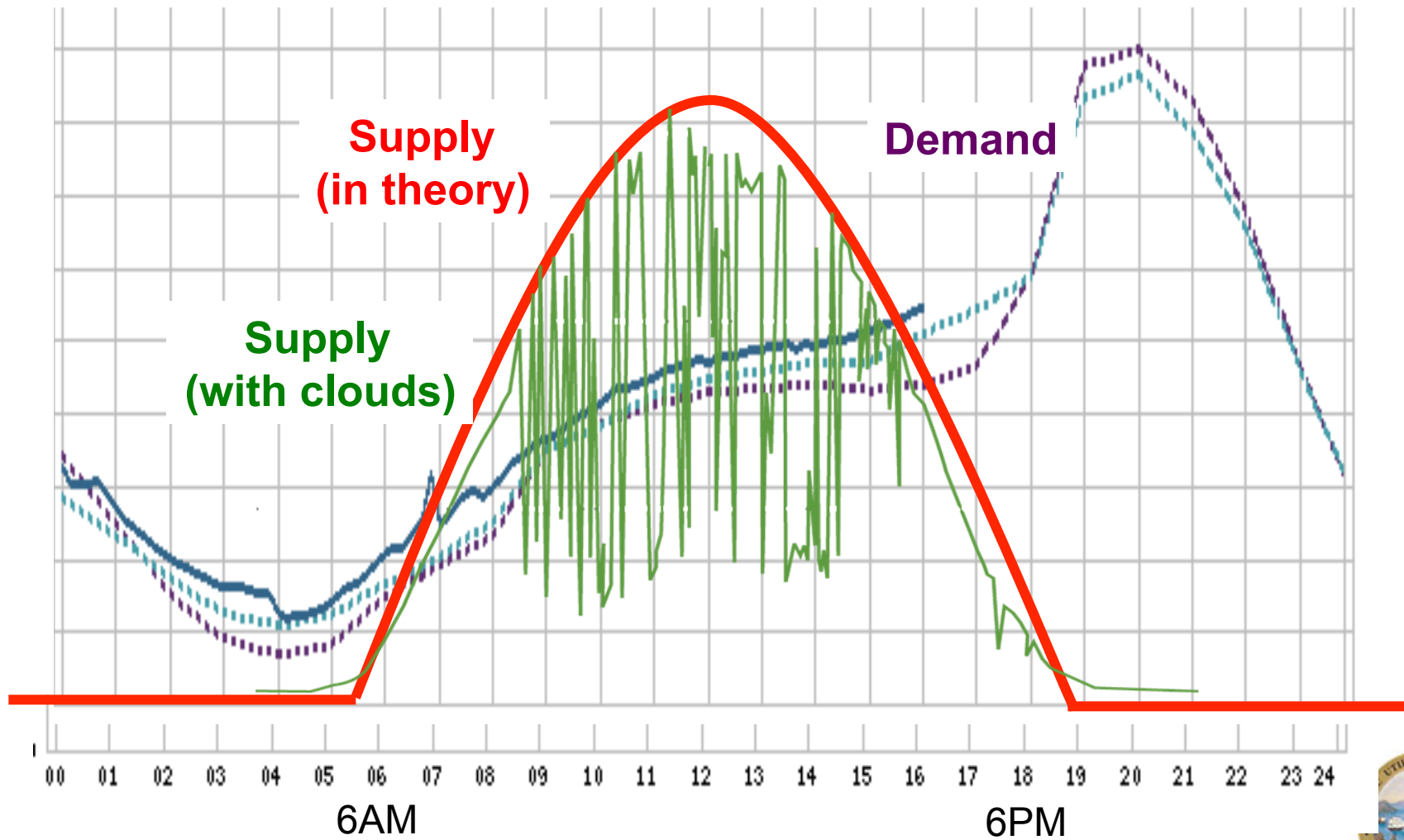
Source: California Public Utilities Commission, 4th Quarter 2010





Reliability

Grid Integration: Solar has 2 big problems



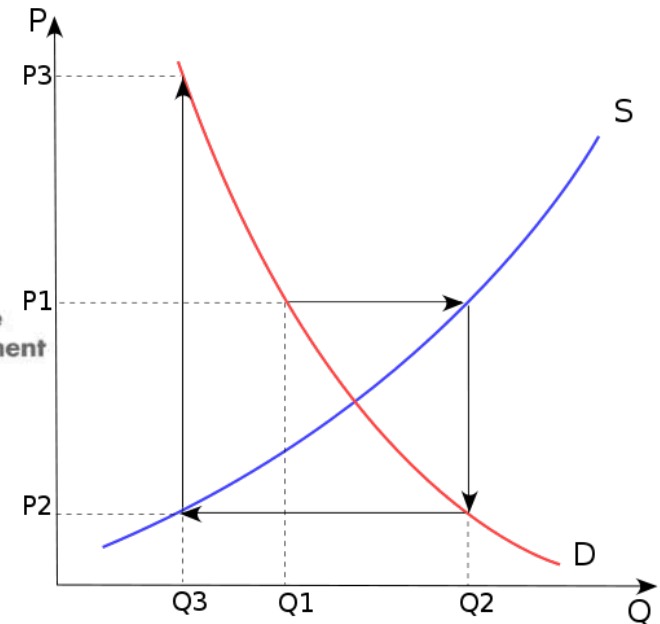
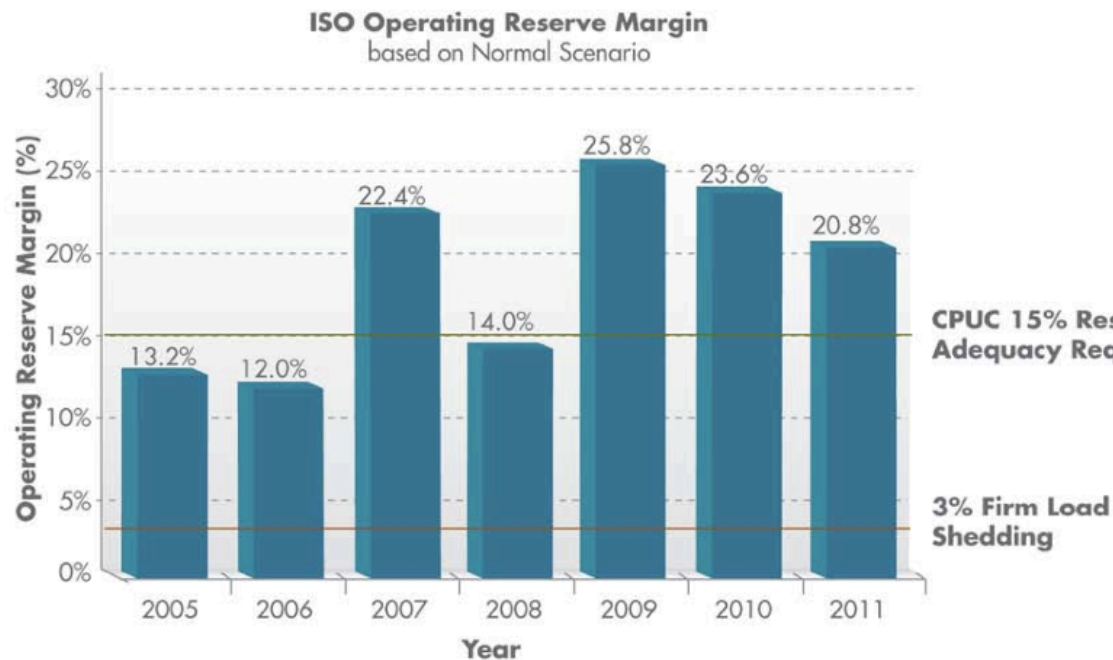
Source: CPUC.





Reliability

Reliability and long-term capacity: avoiding the cobweb



Source: California ISO 2011 Summer Assessment





Questions and Discussion

- Mark Ferron, Commissioner
mark.ferron@cpuc.ca.gov
- Charlotte TerKeurst: Chief of Staff
charlotte.terkeurst@cpuc.ca.gov
- Sara Kamins, Energy Advisor
sara.kamins@cpuc.ca.gov
- Michael Colvin, Energy and Water Advisor
michael.colvin@cpuc.ca.gov
- Charlyn Hook, Legal Advisor
charlyn.hook@cpuc.ca.gov

